

CLAIMS

We claim:

1. An LED module, comprising:
 - a first LED mounted with a circuit board assembly;
 - a substantially constant current circuit operably connected to the first LEDwhereby the first LED emits light at a predetermined level of brightness; and
 - a power supply operably connected mounted with the circuit board assembly to the substantially constant current circuit.
2. The LED module of claim 1, comprising:
 - said power supply providing alternating current; and
 - a rectifier operably connected to said power supply to convert said alternating current to direct current.
3. The LED module of claim 1, comprising:
 - said power supply including a source of alternating current which is operably connected to a step-down transformer mounted with said circuit board assembly.
4. The LED module of claim 1, said substantially constant current source comprising:
 - a substantially constant current circuit operably connected to said power supply and to the first LED in order to power the first LED with substantially constant current; and
 - wherein the first LED emits light at a predetermined level of brightness.
5. The LED module of claim 1, wherein:
 - the first LED is serially connected to an inductor and switch combination to allow the first LED to operate in a substantially constant current range.
6. The LED module of claim 1, wherein:
 - said circuit board assembly is generally rectangular in configuration and has opposing side edges; and
 - the first LED is located adjacent to one of the side edges.

7. The LED module of claim 1, further comprising:
 - a second LED, mounted with the circuit board assembly in series with the first LED, the substantially constant current circuit operably connected to the first LED and the second LED, whereby each of the first LED and the second LED emit light at a substantially uniform predetermined level of brightness.
8. The LED module of claim 7, wherein:
 - said circuit board assembly is generally rectangular in configuration and has opposing side edges;
 - the first LED is located adjacent to one of the side edges; and
 - the second LED is located adjacent to another of the side edges.
9. A system, comprising:
 - a first LED subsystem, comprising:
 - a first LED unit; and
 - a first power supply unit, operably connected to the first LED unit, comprising:
 - a substantially constant current circuit operably connected to a first power supply, and to the first LED unit,
 - whereby the first LED module emits light at a predetermined level of brightness.
10. The system of claim 9, wherein the first LED unit and the first power supply unit are mounted with a first circuit board assembly.
11. The system of claim 9,
 - wherein the first LED unit is mounted with a first circuit board assembly,
 - wherein the first power supply unit is mounted with a second circuit board assembly.
12. The system of claim 11, further comprising:
 - a second LED unit, mounted with a third circuit board assembly, operably connected to the first LED unit,
 - whereby the first LED unit and the second LED unit emit light at a substantially uniform level of brightness.

13. The system of claim 11, further comprising:
a second LED unit, mounted with a third circuit board assembly, operably connected to the first power supply unit,
whereby the first LED unit and the second LED unit emit light at a substantially uniform level of brightness.
14. The system of claim 9, further comprising:
a second LED unit; and
a second power supply unit, operably connected to the first LED unit, comprising:
a substantially constant current circuit operably connected to a power supply, and to the second LED unit,
whereby the first LED unit and the second LED unit emit light at a substantially uniform level of brightness.
15. The system of claim 14, wherein the second LED unit and the second power supply unit are mounted with a second circuit board assembly.
16. The system of claim 9,
wherein the second LED unit is mounted with a second circuit board assembly,
wherein the second power supply unit is mounted with a third circuit board assembly.
17. The system of claim 9, further comprising:
a second LED subsystem, comprising:
a second LED unit; and
a second power supply unit, operably connected to the second LED unit, comprising:
a substantially constant current circuit operably connected to a second power supply, and to the first LED unit,
whereby the first LED unit and the second LED unit emit light at a substantially uniform level of brightness.

18. The system of claim 17, wherein the second LED subsystem and the first LED subsystem are electrically disconnected from each other.